

# *Agrostis lenis* (Poaceae: Pooideae: Poeae): rediscovery of a rare and presumably extinct species in São Paulo state, Brazil

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**Abstract:** The grass *Agrostis lenis* Roseng., Arrill. & Izag., a presumably extinct species in São Paulo state, was recollected in that state after a gap of 89 years. This species is considered rare and threatened in São Paulo. Notes on its distribution in Southeastern Brazil, images and a short description are given.

**Key words:** conservation, grasses, montane grasslands, red list, Southeastern Brazil

*Agrostis* L. includes ca. 220 species (Longhi-Wagner 2001), most of them from temperate montane grasslands of both hemispheres, and with few species occurring in low altitude grasslands. In Brazil, there occur six species (Longhi-Wagner 2014), three of which are included in the Brazilian Flora Red List (Filgueiras *et al.* 2013).

*Agrostis lenis* Roseng., Arrill. & Izag. (Figures 1 and 2) is a South American endemic and threatened species recorded for Argentina, Bolivia, Brazil, Chile, and Uruguay (Soreng *et al.* 2003). Morphologically it can be described as delicate, annual, with semi-decumbent to decumbent culms, 15–50 cm long; nodes glabrous, the lower ones usually rooting; sheath

glabrous; ligule membranous, erose; blades linear, 4–10(–15) × 0.2–0.6(–1) cm, and glabrous; panicle open with pedicels glabrous to minutely scabrous; spikelets 1.5–2 mm long, 1-flowered, bisexual; callus of the antherium glabrous; glumes 2, sub-equal, muticous, 1-nerved, lower glume nerve scabrous, upper glume nerve smooth to minutely scabrous; lemma glabrous, 5-nerved, muticous; palea reduced.

In Brazil, the distribution of *A. lenis* extends from the states of Minas Gerais and Rio de Janeiro to Rio Grande do Sul (Longhi-Wagner 2001, 2014; Filgueiras *et al.* 2013; Dalmo-lim and Zanin 2014).

According to data gathered from virtual herbaria (Herbário Virtual da Flora do Brasil, <http://www.floradobrasil.jbrj.gov.br/jabot/herbarioVirtual>, and SpeciesLink, <http://www.splink.org.br>), in the state of Rio de Janeiro, this species is known from several locations in the Itatiaia National Park.

Itatiaia National Park is located at the southernmost portion of the states of Rio de Janeiro and Minas Gerais, near the border of São Paulo state, along the Mantiqueira mountain range, in altitudes varying from 600–2,791 m above sea level (a.s.l.) (ICMBIO 2014), which seems to be the northernmost limit of the species in Brazil.



**Figure 1.** *Agrostis lenis*. a. Spikelet, lower and upper glumes enclosing the antherium. b. Spikelet, lower and upper glumes opened and exposing part of the antherium. c. Spikelet, antherium detached (see callus glabrous). d. Caryopsis. [based on S.A. Nicolau s.n. (SP454554)]. Photos: R.S. Rodrigues.





**Figure 2.** *Agrostis lenis*. Inflorescence. [based on S.A. Nicolau s.n. (SP454554)]. Photo: R.S. Rodrigues.

We found two records of *A. lenis* from Minas Gerais (*cf.* selected materials examined), one from Camanducaia and the other from Delfim Moreira, both in high altitude grassy fields, near the border of the state of São Paulo.

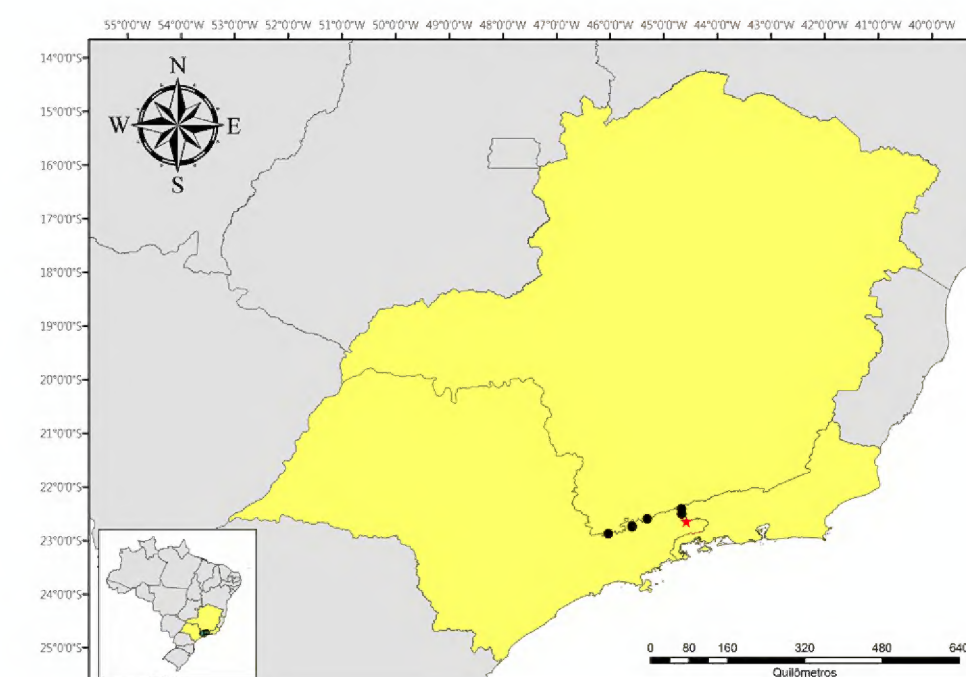
In São Paulo state, *A. lenis* was known only from two collections gathered in the environs of Campos do Jordão, in the same year, by the same collector (1925, A. Chase). This is probably the reason why this species was classified as presumably extinct in the state of São Paulo by Mamede *et al.* (2007). However, recent fieldwork in the Serra da Bocaina State Park revealed that the species still occurs in São Paulo. This park extends from the south of Rio de Janeiro to the eastern portion of São Paulo, in altitudes varying from sea level to 2,000 m (ICMBIO 2014).

The Mantiqueira and Bocaina mountain ranges probably represent the entire distribution range of the species in Southeastern Brazil (Figure 3).

Based on this recent rediscovery at Serra da Bocaina State Park, the reevaluation of the conservation status of *A. lenis* in São Paulo state is necessary; therefore, we suggest it to be classified as vulnerable (VU), following the IUCN criteria applied for this species by Filgueiras *et al.* (2013).

**EXAMINED MATERIAL:** Brazil. São Paulo: Campos do Jordão, Serra da Mantiqueira, May 1925, A. Chase 9828 (NY, SP); same locality, same date, A. Chase 9915 (NY). Serra da Bocaina, Parque Estadual da Serra da Bocaina, April 2014, S.A. Nicolau s.n. (SP454554).

**Additional selected material:** Brazil. Minas Gerais: Camanducaia, Monte Verde, afloramento da Pedra do Selado, 28 June 2001, L.D. Meireles and R. Belinello 325 (UEC). Delfim Moreira, Fazenda Boa Esperança, trilha dos Romeiros, 19 March 2011, T.E. Almeida *et al.* 2930 (BHCB). Rio de Janeiro: Itatiaia, Parque Nacional do Itatiaia, planalto próximo ao Topo das Prateleiras, 24 January 1996, J.M.A. Braga 3208 (RB). Itatiaia, Parque Nacional, Maciço das Prateleiras (Pedra de Maçã), April 2000, K.T. Ribeiro 278 (ICN); same locality,



**Figure 3.** Distribution of *Agrostis lenis* in Southeastern Brazil. ●: previous known distribution. ★: new record for the state of São Paulo.

same date, K.T. Ribeiro 283 (ICN). Itatiaia, Parque Nacional do Itatiaia, Abrigo Rebouças, February 2002, R. Moura 361 (ICN).

Acronyms of cited herbaria follow Thiers (2014).

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**Authors' contribution statement:** RSR and TSF identified the new cited specimen for São Paulo state, reviewed the collections and the distribution range of the species, wrote and reviewed the manuscript; RSR prepared the figures, except the map.

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